1.   (Currently amended) A method ~~for providing, in a service provider's network, a multicast capability for a customer packet of a virtual private LAN service~~, comprising:

assigning ~~the virtual private LAN service~~ an Internet Protocol (IP) multicast group address <u>to a virtual private LAN service</u> ~~in a private domain of the service provider's~~ <u>a</u> network;

~~at a provider edge device associated with the virtual private LAN service,~~ encapsulating ~~the customer~~ <u>a data</u> packet of the virtual private LAN service in an IP packet designating the IP multicast group address and including an Ethernet header designating a multicast Ethernet address associated with the IP multicast group address; <u>and</u>

transmitting the IP packet ~~over the service provider's network~~ using an IP multicast routing protocol ~~from the provider edge device to a plurality of other provider edge devices associated with the virtual private LAN service; and~~

~~at each of the other provider edge devices associated with the virtual private LAN service, upon receiving the IP packet, recovering the customer packet.~~

2-4.   (Canceled)

5.   (Currently amended) The method as in claim 1, wherein the Internet Protocol multicast group address associated with the virtual private LAN service is ~~selected from~~ <u>within</u> a range set aside ~~by the service provider~~ for use with virtual private LAN services.

6.   (Currently amended) The method as in claim 5, wherein the range set aside ~~by the service provider is selected from~~ is within a range having an administrative scope ~~local to the service provider's network~~.

7.   (Currently amended) The method as in claim 1, further comprising distributing the Internet Protocol multicast group address ~~using a name server~~.

8.   (Canceled).

9.   (Previously presented) The method as in claim 1, wherein the IP multicast routing protocol comprises a source-based routing protocol.

10.   (Previously presented) The method as in claim 1, wherein the IP multicast routing protocol comprises a core-based routing protocol.

11.   (Currently amended) The method as in claim 1, wherein the IP multicast routing protocol ~~creates~~ uses a distribution tree for distributing the IP ~~encapsulated customer~~ packet for the virtual private LAN service.

12.   (Currently amended) The method as in claim 1, ~~further comprising providing~~ wherein the virtual private LAN service ~~in the service provider's network using~~ includes an Internet Protocol/Multi-protocol label switching service.

13.   (Currently amended) The method as in claim 1, wherein ~~the service provider provides~~ the virtual private LAN service ~~in the context of~~ is part of a Layer 2 virtual private network.

14-16.   (Canceled)

17.   (Currently amended) A <u>device</u> ~~system for providing a customer packet~~ ~~multicast capability in a virtual private LAN service implemented on a service provider's~~ ~~network~~, comprising:

a first ~~provider edge device~~ <u>network interface</u> associated with [[the]] <u>a</u> virtual private LAN service adapted to <u>transmit an</u> ~~encapsulate the customer packet of the~~ ~~virtual private LAN service in an~~ Internet Protocol (IP) packet <u>encapsulating a data</u> <u>packet, the IP packet</u> designating an IP multicast group address assigned to [[the]] <u>a</u> virtual private LAN service and including an Ethernet header designating a multicast Ethernet address associated with the IP multicast group address~~, the first provider edge~~ ~~device including a transmitter for transmitting over the service provider's network the~~ ~~IP packet using an IP multicast routing protocol~~; and

a second <u>network interface</u> ~~provider edge device~~ associated with the virtual private LAN service~~, including a receiver~~ <u>adapted</u> for receiving ~~the~~ <u>an</u> IP packet <u>which (a) encapsulates a data packet, (b) designates the IP multicast group address</u> <u>assigned to the virtual private LAN service and (c) includes an Ethernet header</u> <u>designating the multicast Ethernet address associated with the IP multicast group</u> <u>address</u> ~~from the service provider's network, the second provider edge device being~~ ~~adapted to recover the customer packet upon receiving the IP packet~~.

18-20. (Canceled)

21.   (Currently amended) The ~~system as in~~ <u>device of</u> claim 17, wherein the Internet Protocol multicast group address associated with the virtual private LAN service is ~~selected~~ ~~from~~ <u>within</u> a range set aside ~~by the service provider~~ for use with virtual private LAN services.

22. (Currently amended) The ~~system as in~~ device of claim 21, wherein the range ~~set aside by the service provider is selected from~~ is within a range having an administrative scope ~~local to the service provider's network~~.

23-24. (Canceled)

25. (Currently amended) The ~~system as in~~ device of claim 17, wherein the IP multicast routing protocol comprises a source-based routing protocol.

26. (Currently amended) The ~~system as in~~ device of claim 17, wherein the IP multicast routing protocol comprises a core-based routing protocol.

27. (Currently amended) The ~~system as in~~ device of claim 17, wherein the IP multicast routing protocol ~~creates~~ uses a distribution tree for the virtual private LAN service.

28. (Currently amended) The ~~system as in~~ device of claim 17, wherein the virtual private LAN service ~~in the service provider's network implements~~ is part of an Internet Protocol/Multi-protocol label switching service.

29. (Currently amended) The ~~system as in~~ device of claim 17, wherein the virtual private LAN service ~~implements~~ is part of a Layer 2 virtual private network.

30-32. (Canceled)

33. (Currently amneded) ~~An edge~~ A device comprising:

   a first port;

   a second port; and

a routing engine that (a) (i) encapsulates a ~~customer~~ <u>data</u> packet of a virtual private LAN service received at the first port in an IP packet designating an IP multicast group address associated with the virtual private LAN service and including an Ethernet header designating a multicast Ethernet address associated with the IP multicast group address and (ii) provides the IP ~~encapsulated customer~~ packet to the second port for transmitting; and (b) recovers a ~~customer~~ <u>data</u> packet of the virtual private LAN service that was encapsulated in an IP ~~encapsulated customer~~ packet received at the second port and designating an IP multicast group address associated with the virtual private LAN service and provides the recovered ~~customer~~ <u>data</u> packet to the first port for transmitting.

34.   (Currently amended) The ~~edge~~ device of Claim 33, wherein the Internet Protocol multicast group address associated with the virtual private LAN service is ~~selected from~~ <u>within</u> a range set aside for use with virtual private LAN services.

35.   (Currently amended) The ~~edge~~ device of Claim 34, wherein the range is ~~selected from~~ <u>within</u> a range having an administrative scope ~~local to a service provider's network~~.

36.   (Currently amended) The ~~edge~~ device of Claim 33, wherein the routing engine ~~is adapted to receive an association between~~ <u>associates</u> the virtual private LAN service [[and]] <u>with</u> the IP multicast group address ~~from a name server~~.

37.   (Currently amended) The ~~edge~~ device of Claim 33, wherein the IP packet is routed using [[an]] <u>a source-based</u> IP multicast routing protocol~~, which comprises a source-based routing protocol~~.

38.   (Currently amended) The ~~edge~~ device of Claim 33, wherein the IP packet is routed using [[an]] a core-based IP multicast routing protocol~~, which comprises a core-based routing protocol~~.

39.   (Currently amended) The ~~edge~~ device of Claim 33, wherein the IP packet is routed using an IP multicast routing protocol~~, which creates~~ and a distribution tree for distributing the IP ~~encapsulated customer~~ packets for the virtual private LAN service.

40.   (Currently amended) The ~~edge~~ device of Claim 33, wherein the IP packet ~~encapsulated customer packets comprise~~ is distributed using an Internet Protocol/Multi-protocol label switching service.

41.   (Currently amended) The ~~edge~~ device of Claim 33, wherein ~~the edge device is adapted to provide~~ the virtual private LAN service ~~in the context of~~ is related to a Layer 2 virtual private network.

42.   (Withdrawn) The edge device of Claim 33, wherein the routing engine is adapted to enforce an access control list at the first port to deny routing packets not associated with an approved virtual private LAN service.

43.   (Currently amended) ~~An edge~~ A device comprising:

a first port for connecting to a first network;

a second port for connecting to a second network; and

means for routing that (a)(i) encapsulates a ~~customer~~ data packet of a virtual private LAN service received at the first port in an IP packet designating an IP multicast group address associated with the virtual private LAN service and including

an Ethernet header designating a multicast Ethernet address associated with the IP multicast group address and (ii) provides the IP ~~encapsulated customer~~ packet to the second port for transmitting; and (b) recovers a ~~customer~~ <u>data</u> packet of the virtual private LAN service encapsulated in an IP ~~encapsulated customer~~ packet received at the second port and designating an IP multicast group address associated with the virtual private LAN service and provides the recovered ~~customer~~ <u>data</u> packet to the first port for transmitting.

44.   (Currently amended) The ~~edge~~ device of Claim 43, wherein the IP multicast group address associated with the virtual private LAN service is ~~selected from~~ <u>within</u> a range set aside for use with virtual private LAN services.

45.   (Currently amended) The ~~edge~~ device of Claim 44, wherein the range set aside is ~~selected from~~ <u>within</u> a range having an administrative scope ~~local to a service provider's network~~.

46.   (Currently amended) The ~~edge~~ device of Claim 43, wherein the means for routing ~~receives an association between~~ <u>associates</u> the virtual private LAN service [[and]] <u>with</u> the IP multicast group address ~~from a name server~~.

47.   (Currently amended) The ~~edge~~ device of Claim 43, wherein the IP packet is routed using [[an]] <u>a source-based</u> IP multicast routing protocol~~, which comprises a source-based routing protocol~~.

48.   (Currently amended) The ~~edge~~ device of Claim 43, wherein the IP packet is routed using [[an]] <u>a core-based</u> IP multicast routing protocol~~, which comprises a core-based routing protocol~~.

49. (Currently amended) The ~~edge~~ device of Claim 43, wherein the IP packet is routed using an IP multicast routing protocol~~, which creates~~ and a distribution tree for distributing the IP ~~encapsulated customer~~ packets for the virtual private LAN service.

50. (Currently amended) The ~~edge~~ device of Claim 43, wherein the IP ~~encapsulated customer~~ packets are distributed in the second network using an Internet Protocol/Multi-protocol label switching service.

51. (Currently amended) The ~~edge~~ device of Claim 43, wherein ~~the edge device is adapted to provide~~ the virtual private LAN service ~~in the context of~~ relates to a Layer 2 virtual private network.

52. (Withdrawn) The edge device of Claim 43, wherein the means for routing enforces an access control list at the first port to deny routing packets not associated with an approved virtual private LAN service.

53. (Currently amended) A method ~~to be performed in an edge device, the method~~ comprising:

encapsulating a data ~~customer~~ packet of a virtual private LAN service in an internet protocol (IP) packet designating an IP multicast group address that has been associated with the virtual private LAN service and including an Ethernet header designating a multicast Ethernet address associated with the IP multicast group address; and

transmitting [[to]] the IP packets ~~encapsulated customer packets~~.

54. (Currently amended) A method as in Claim 53, further comprising:

receiving an IP ~~encapsulated customer~~ packet <u>encapsulating a data packet and</u> designating the IP multicast group address;

recovering ~~the customer~~ <u>a data</u> packet from the IP ~~encapsulated customer~~ packet; and

transmitting the ~~customer~~ <u>recovered data</u> packet.

55.   (Currently amended) The method of Claim 53, wherein the Internet Protocol multicast group address associated with the virtual private LAN service is ~~selected from~~ <u>within</u> a range or use with virtual private LAN services.

56.   (Currently amended) The method of Claim 55, wherein the range is <u>within</u> ~~selected from~~ a range having an administrative scope local to a service provider's network.

57.   (Currently amended) The method of Claim 53, further comprising ~~receiving an association between~~ <u>associating</u> the virtual private LAN service [[and]] <u>with</u> the Internet Protocol multicast group address ~~from a name server~~.

58.   (Currently amended) The method of Claim 53, wherein the IP packet is routed using [[an]] <u>a source-based</u> IP multicast routing protocol, which comprises a source-based routing protocol.

59.   (Currently amended) The method of Claim 53, wherein the IP packet is routed using [[an]] <u>a core-based</u> IP multicast routing protocol~~, which comprises a core-based routing protocol~~.

60. (Currently amended) The method of Claim 53, wherein the IP packet is routed using an IP multicast routing protocol, ~~which creates~~ and a distribution tree for distributing ~~the~~ IP ~~encapsulated customer~~ packets for the virtual private LAN service.

61. (Currently amended) The method of Claim 53, wherein the IP encapsulated customer packets use an Internet Protocol/Multi-protocol label switching service.

62. (Currently amended) The method of Claim 53, wherein the virtual private LAN service ~~is in the context of~~ relates to a Layer 2 virtual private network.

63. (Withdrawn) The method of Claim 53, further comprising enforcing an access control list to deny routing packets not associated with an approved virtual private LAN service.

64. (New) The method as in claim 7, wherein the Internet Protocol multicast group address is distributed using a name server.

65. (New) The device of Claim 33, wherein the IP multicast group address is obtained from a name server.

66. (New) The device of Claim 43, wherein IP multicast group address is obtained from a name server.

67. (New) The method of Claim 53, wherein the Internet Protocol multicast group address is obtained from a name server.